

B2
a sorbent material in the sorbent volume and extending from the opening toward the barrier, the sorbent material being selected for use in the chemical analysis and the barrier being selected to prevent passage of the sorbent material out of the sorbent volume.

6. (Once Amended) The sorbent cartridge of Claim 1, wherein the sorbent material comprises a plurality of particles with a coating of a solvent on the particles that is sticky enough to cause the particles to stick together and resist passage out of the opening in the tip.

7. (Once Amended) The sorbent cartridge of Claim 5, wherein the solvent is one of glycol, ethylene glycol or propylene.

8. (Once Amended) A sorbent cartridge, comprising:

a pipette tip having an interior cavity in fluid communication with a distal opening located in the tip;

a filter placed in the tip and defining a predetermined volume that extends between the barrier and the distal opening; and

a sorbent material substantially filling the volume, the filter retaining the sorbent material in the predetermined volume while allowing passage of processing fluids through the filter during use of the cartridge.

10. (Once Amended) The sorbent cartridge of Claim 8, wherein the predetermined volume is tapered toward the distal opening to form a frusto-conical shaped cavity and the filter comprises a frusto-conical filter.

11. (Once Amended) The sorbent cartridge of Claim 8, wherein the sorbent material comprises particles having diameters and wherein the distal opening has a diameter of about 2-10 times the maximum diameter of the sorbent material.

13. (Once Amended) The sorbent cartridge of Claim 8, wherein the sorbent material comprises a plurality of particles having a coating of a solvent that is sticky enough to cause the particles of the sorbent material to stick together and resist passage out of the opening in the tip.

14. (Once Amended) The sorbent cartridge of Claim 13, wherein the solvent is one of glycol, ethylene glycol, or propylene.

33. (Once Amended) A sorbent cartridge for use in preparing samples for chemical analysis, comprising:

a hollow tip having an opening in a distal end;

means in the tip for retaining a porous barrier at a predetermined location to define a sorbent volume between the barrier and the opening the hollow tip, with no porous barrier being interposed between the opening and said means; and

a sorbent material between the opening and said means retained in the sorbent volume by the porous barrier for use in the chemical analysis, the barrier allowing passage of fluids but not the sorbent material, during use of the sorbent cartridge.

35. (New) A sorbent cartridge for use in preparing samples for chemical analysis, comprising:

a tip having a longitudinal axis and a distal tip having cavity walls that define an interior cavity extending along the axis with an opening at a distal end of the tip;

a porous barrier in the cavity placed at a predetermined location in the tip to define a sorbent volume between the barrier, the cavity walls and the opening at the distal end of the tip, the barrier allowing processing fluids to pass through the barrier; and

a sorbent material in the sorbent volume and extending from the opening toward the barrier, the sorbent material being selected for use in the chemical analysis and the barrier being selected to prevent passage of the sorbent material out of the sorbent volume.

36. (New) The sorbent cartridge of Claim 35, wherein the cavity walls at the opening extend toward the longitudinal axis to form a lip that helps retain the sorbent in the cavity.

37. (New) The sorbent cartridge of Claim 35, wherein the tip forms a tapered cavity ending at the distal end.

38. (New) The sorbent cartridge of Claim 35, wherein the sorbent material substantially fills the sorbent volume.

39. (New) The sorbent cartridge of Claim 35, wherein the sorbent comprises a plurality of particles coated with a material that helps prevent the sorbent from sliding out the opening.

40. (New) The sorbent cartridge of Claim 39, wherein the particles are coated with propylene glycol.

41. (New) The sorbent cartridge of Claim 39, wherein the particles are coated with ethylene glycol.

42. (New) The sorbent cartridge of Claim 39, wherein the particles are coated with glycerol.

43. (New) The sorbent cartridge of Claim 35, wherein the sorbent comprises a plurality of particles filling between about 50-60% of the sorbent volume.

44. (New) The sorbent cartridge of Claim 35, further comprising one of a frit or screen at the opening and placed to prevent sorbent from passing out of the opening.

45. (New) The sorbent cartridge of Claim 35, wherein the sorbent material comprises particles having diameters and wherein the distal opening has a diameter of about 2-10 times the maximum diameter of the particles.

46. (New) A sorbent cartridge for use in preparing samples for chemical analysis, comprising:

a tip having a longitudinal axis and a distal tip having cavity walls that define an interior cavity extending along the axis with an opening at a distal end of the tip;

a porous barrier at not more than one location inside the cavity in the tip and defining a sorbent volume between the porous barrier, the cavity walls and the opening at the distal end of the tip, the porous barrier allowing processing fluids to pass through the barrier; and

a sorbent material in the sorbent volume and extending from the opening toward the barrier, the sorbent material being selected for use in the chemical analysis and the barrier being selected to prevent passage of the sorbent material out of the sorbent volume while allowing the passage of liquids.

47. (New) The sorbent cartridge of Claim 46, wherein the tip is tapered toward the opening in the distal end of the tip.

48. (New) The sorbent cartridge of Claim 47, wherein the sorbent material substantially fills all of the sorbent volume.

49. (New) The sorbent cartridge of Claim 46, wherein the distal tip is conical.

50. (New) The sorbent cartridge of Claim 46, wherein the distal tip is tapered at least immediately adjacent the opening in tip.

51. (New) A sorbent cartridge for use in preparing samples for chemical analysis,

comprising:

a tip having a longitudinal axis and a distal tip having cavity walls that define a tapered interior cavity extending along the axis with an opening at a distal end of the tip;

a porous barrier at not more than one location inside the cavity in the tip and defining a sorbent volume between the porous barrier, the cavity walls and the opening at the distal end of the tip, the porous barrier allowing processing fluids to pass through the barrier; and

a sorbent material in the sorbent volume and extending from the opening to the barrier, the sorbent material being selected for use in the chemical analysis and the barrier being selected to prevent passage of the sorbent material out of the sorbent volume while allowing the passage of liquids.

52 53. (New) A sorbent cartridge for use in preparing samples for chemical analysis, comprising:

a pipette tip having a longitudinal axis and a hollow distal tip with tapered walls defining an interior cavity extending along the axis and opening at a distal end of the tip;

a porous barrier in the tapered cavity placed at a predetermined location in the tip to define a sorbent volume between the barrier, the cavity walls and the opening at the distal end of the tip, the barrier allowing processing fluids to pass through the barrier; and

a sorbent material in the sorbent volume, the sorbent material being selected for use in the chemical analysis and the barrier being selected to prevent passage of the sorbent material out of the sorbent volume, the sorbent material comprising a plurality of particles with a coating of a solvent on the particles that is sticky enough to cause the particles to stick together and resist passage out of the opening in the tip.

53 54. (New) The sorbent cartridge of Claim 53, wherein the solvent is one of glycol, ethylene glycol or propylene.

54 55. (New) A sorbent cartridge, comprising:

a pipette tip having an interior cavity in fluid communication with a distal opening located in the tip;

a filter placed in the tip and defining a predetermined volume between the barrier and the distal opening; and